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Subject: Review of Baseline Risk Assessment for the ACS Site, Griffith, Indiana

Dear Mr. Swale:

Following are Roy F. Weston, Inc.'s (WESTON) comments on the draft Baseline Risk Assessment (RA) for the ACS site.

General Comments

The ACS risk assessment was conducted, for the most part, in accordance with acceptable procedures for risk assessment projects. However, many of the assumptions used throughout the report, particularly in the exposure assessment, go well beyond the mandated "reasonable maximum exposure" (RME) approach. In many cases, an absolute worst-case approach is used. This can be useful in determining if any problems are likely at a site, but it is not useful if the risk assessment is intended to be used to determine appropriate cleanup levels.

This is one of the major criticisms of the document, along with the decision to break out every area in the site. The resulting confusion for the reader makes a detailed analysis extremely difficult. It also makes all the various exposure scenarios and assumptions even more questionable. For example, assuming that a trespasser will contact a single area on the site on a regular basis seems to be very unreasonable and very unlikely, especially considering the fact that there is no evidence of trespassing at the site. If cleanup standards are based on reducing this risk to

a certain level, the mandated cleanup may be much more stringent than necessary to protect public health and environmental concerns.

Section 7.1.3.5.1.1. p. 14

"In reality, there are no apparent current exposures."

This comment should be deleted or expanded. While it may be true that exposure to site trespassers may be overestimated, site-specific information on trespassing is described as "not known." It seems inappropriate to conclude that no exposures are occurring based on the absence of information.

If, on the other hand, visual inspection of the site over time has indicated that there is little or no trespassing occurring at the site, this explanation should be expanded to describe the nature and frequency of the inspections.

Section 7.1.3.5.1.1.2. p. 17

"No air samples were taken in the field during the remedial investigation because of the difficulty in distinguishing air pollution sources at the site from anthropogenic background."

This is not supported with evidence in the risk assessment. Upwind and site samples could have been taken. Real-time VOC monitoring could have been performed to determine if any high levels of VOCs were being emitted. This could have confirmed the presence of VOCs or shown that this is not a significant source. This would have reduced the overall uncertainty of the risk assessment.

Section 7.1.3.5.1.1.4. p. 18

"Evidence of playing activity was not noted at these properties during the site visit. Nonetheless, to assess potential health risks associated with contaminated surface soils, contaminated exposure was quantified by assuming adolescents regularly play at the Kapica-Pazmey location."

This is a common assumption in the report. The risk assessment assumes contact is "regular" with no evidence to support the

Table T-18

- ET - 3 hours/day
- EF - 2 days/week x 26 weeks/year

Table T-19

- FI - 50 percent
- EF - 2 days/week x 26 weeks/year

Table T-20

- EF - 2 days/week x 26 weeks/year

Tables T-9 and T-18
"RC - Chemical-specific (Table 7-17)"

"RC" should be "PC."

Appendix U, page 2

"The 95 percent upper confidence limit of the arithmetic mean (95% UCLM) is used to estimate exposure concentration."

This statement is misleading. While the arithmetic mean of log-transformed data has been calculated, this value, when exponentiated, represents the geometric mean of the data. It is the 95 percent UCL of the geometric mean that has been calculated and considered in determining the exposure point calculations. Use of the 95 percent UCL of the geometric mean assumes that the data are distributed log normally. Although this assumption may be a valid one, it should be stated explicitly in Appendix U.

Appendix V

The modeling techniques described in (Appendix V) represents a conservative approach to determine ambient air concentrations from area sources (i.e., landfills). The fashion in which the pollutant emission routes were first calculated and then allowed to disperse,

follow acceptable techniques; however, there are some alternative procedures which could be used to more realistically estimate the ambient air concentrations.

Emission Rate

A limitation with the Shen/Farino emission rate estimation method described in Appendix V involves the assumption that the waste is completely saturated with each waste constituent. For waste streams which are not completely saturated, the Shen/Farino method will overestimate the emission rates. Though there are several other methods which can be used to estimate emissions, they all have limitations and the use of the Shen/Farino method, though conservative, is probably appropriate. It should be noted by the agency that the predicted concentrations are probably overestimated.

Modeling Technique

Although the use of a simple dispersion calculation to calculate ambient air concentrations is recommended by the Superfund Exposure Assessment Manual, (U.S. EPA, 1988), it is extremely conservative. Instead, a more sophisticated approach, involving the Industrial Source Complex Long-Term model (ISCLT) could be used. This would not require an extensive modeling effort. It would be a rather simple matter to use ISCLT and a five year wind direction frequency distribution for Chicago, Illinois, to provide a more realistic prediction of ambient air concentrations.

An additional concern with the modeling procedures involves the method described for combining concentrations from the four sites. It is suggested that due to problems summing the source contributions from the four sources, the maximum ambient air concentration is set equal to the maximum concentration generated by any of the sources. This could result in an underprediction of concentrations. Rather, it would be better to sum the maximum concentrations from each source and potentially overestimate the ambient air concentrations. An additional benefit to using the ISCLT model would be that the source contributions from each site could be totaled resulting in the most accurate estimate of ambient air concentrations.